



**VAJRA**  
by VAYAVE

# VAJRA BATTERY ENERGY STORAGE SYSTEMS (BESS)

**Reliable Power.**  
**Lower Energy Costs.**  
**Greater Energy Resilience.**

Advanced Battery Energy Storage  
Solutions for Industrial, Commercial,  
and Critical Infrastructure Applications.



Reduce Peak  
Demand Charges



Improve Energy  
Reliability



Integrate  
Renewable  
Energy



Enable  
Continuous  
Operations



Intelligent Energy  
Management

## VAJRA HELPS YOU

- ✓ Get backup power instantly
- ✓ Save electricity costs
- ✓ Run operations without interruption
- ✓ Ensure business continuity



**SAFE & RELIABLE**  
Advanced safety architecture  
with multi-level protection.



**SMART & INTELLIGENT**  
Real-time monitoring, diagnostics  
and performance analytics.



**BUILT TO LAST**  
Up to 5000 cycles and  
12+ years design life.



**ALL-WEATHER READY**  
Operates in extreme conditions  
from -30°C to +65°C.

# The Hidden Cost of Grid Dependency

Industries today face increasing challenges from rising electricity tariffs, peak demand charges, power quality issues, and unexpected outages. VAJRA Battery Energy Storage Systems help organizations gain greater control over energy consumption while improving operational reliability.

## HOW VAJRA HELPS



### PEAK DEMAND MANAGEMENT

Reduce demand charges by utilizing stored energy during peak consumption periods.



### BACKUP POWER

Instant transition during power interruptions to support critical operations.



### SOLAR ENERGY STORAGE

Store excess solar generation for use during non-generation hours.



### ENERGY COST OPTIMIZATION

Use stored energy when electricity tariffs are highest.



### POWER QUALITY IMPROVEMENT

Deliver stable and reliable power to sensitive equipment.



## KEY OUTCOMES WITH VAJRA BESS

- ✓ Lower energy costs
- ✓ Improved power reliability
- ✓ Reduced downtime
- ✓ Better equipment protection
- ✓ Efficient use of renewable energy
- ✓ Stronger energy resilience

## Why Choose VAJRA

Long battery life, safe and reliable performance, all-weather operation, easy installation and use, with a modular design that expands anytime.



Long Battery Life



Safe & Reliable  
Performance



All-Weather  
Operation



Easy Installation  
& Use



Modular &  
Expandable  
Anytime

# Advanced Thermal Management Technology

VAJRA BESS is built with **HITCHTECH™** – our patented integrated thermal management technology that ensures maximum safety, longer battery life and consistent performance in all weather conditions.

## HITCHTECH™ THERMAL MANAGEMENT

### INTEGRATED 4-IN-1 SOLUTION



#### COOLING

Maintains optimal temperature



#### HEATING

Enables low temperature operation



#### FIRE SUPPRESSION

Early detection & automatic suppression



#### TEMPERATURE EQUALIZATION

Uniform temperature across all cells



### KEY BENEFITS



**48%**

Higher Thermal Efficiency

Better heat transfer for maximum performance



**14%**

Lower CAPEX

Cost effective compared to conventional systems



Enhances Safety

Integrated fire suppression system



Extends Battery Life

Optimal temperature for longer life



Consistent Performance

Reliable operation in extreme conditions



Low Maintenance

Efficient system with reduced downtime

## BUILT FOR EXTREME CONDITIONS



Operating Temperature Range  
**-30°C to +65°C**

Reliable performance in extreme hot and cold climate



Protection Rating  
**IP67**

Dust tight and water resistant system



Design Life  
**12+ Years**

Engineered for long term reliability



Cycle Life  
**Up to 5000 Cycles**

High cycle life for maximum return on investment

## HOW HITCHTECH™ WORKS



#### Cooling System

Liquid cooling maintains ideal temperature.



#### Heating System

Smart heating enables low temperature operation.



#### Fire Suppression

Early detection with automatic fire suppression.



#### Temperature Equalization

Uniform temperature across all modules for long life.



**HITCHTECH™** ensures safe, reliable and efficient energy storage so your operations run without interruption.



# Inside VAJRA

## Intelligent Energy Storage Architecture

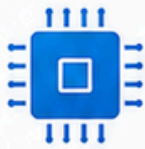


VAJRA BESS is a fully integrated system with advanced components working together to deliver safe, reliable and efficient energy storage.



### LITHIUM BATTERY MODULES

High-performance LFP cells engineered for long cycle life, high energy density and stable performance.



### BATTERY MANAGEMENT SYSTEM (BMS)

Intelligent monitoring of voltage, current, temperature, SOC, SOH with protection and diagnostics.



### THERMAL MANAGEMENT SYSTEM (HITCHTECH™)

Integrated heating, cooling, fire suppression & temperature equalization for all-weather operation.



### LIQUID COOLING SYSTEM

Maintains optimal temperature, prevents overheating and extends battery life.



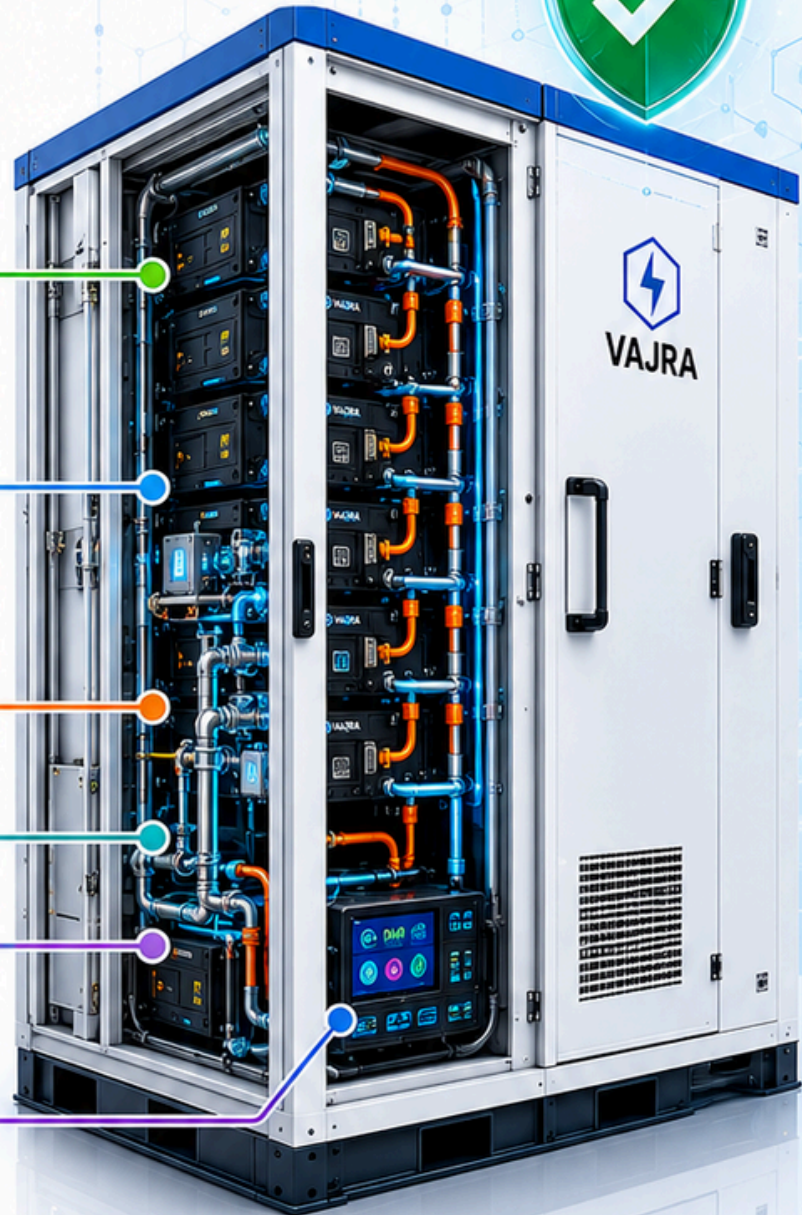
### POWER CONVERSION SYSTEM (PCS)

Manages power flow between battery, grid, solar and loads with high efficiency and reliability.



### SMART CONTROL & MONITORING SYSTEM

Real-time monitoring, data analytics, remote access and performance tracking.



### BUILT-IN SAFETY ARCHITECTURE



Thermal Runaway Protection



Integrated Fire Suppression



Fault Detection & Alerts



Multi-level Protection



System Isolation Protection



Safe, Reliable Operation



Every component is engineered to work seamlessly and deliver maximum performance with complete safety.



# VAJRA for Every Industry

VAJRA BESS is designed to meet the unique energy needs of diverse industries. It ensures reliable power, reduces costs and keeps your operations running without interruption.



## MANUFACTURING PLANTS

Reduce peak demand charges and ensure uninterrupted production.



## PROCESS INDUSTRIES

Reliable power for critical processes and sensitive equipment.



## DATA CENTERS

Deliver continuous power to protect critical IT infrastructure.



## HOSPITALS

Ensure 24x7 power availability for life-saving operations.



## COLD STORAGE & REFRIGERATION

Maintain temperature stability and prevent product losses.



## TELECOM INFRASTRUCTURE

Reliable backup power for remote and critical telecom sites.



## RENEWABLE ENERGY PROJECTS

Store excess solar/wind energy and improve energy utilization.



## COMMERCIAL BUILDINGS

Optimize energy usage and reduce electricity expenses.



## ONE SOLUTION. MULTIPLE BENEFITS.

VAJRA adapts to your energy challenges and drives efficiency, reliability and sustainability for your business.



**Lower Operating Costs**  
Optimize energy spend and save more.



**Minimize Downtime**  
Keep operations running smoothly.



**Protect Critical Operations**  
Ensure safety and business continuity.



**Improve Energy Efficiency**  
Use energy smarter and more efficiently.



**Support Sustainability**  
Reduce carbon footprint with clean energy.



**Future Ready & Scalable**  
Modular design to grow as your needs grow.

# Scalable Solutions for Every Need

VAJRA offers a complete range of energy storage products designed to deliver reliability, flexibility and performance across all applications.



Modular &  
Scalable



Safe &  
Reliable



High  
Performance



Easy to  
Deploy



## 01 VAJRA BATTERY MODULES

High-performance lithium battery modules engineered for long life and stable operation.



High energy density  
LFP cells



Modular design for  
easy expansion



Built-in BMS for  
cell protection



Easy installation  
and maintenance



### Applications:

Small Commercial | Industrial | Telecom | Backup Power

## 02 VAJRA ENERGY STORAGE SYSTEMS

Complete energy storage systems integrating batteries, BMS, PCS, thermal management and controls.



All-in-one  
integrated system



Seamless grid, DG  
and solar integration



Scalable capacity  
from kWh to MWh



High safety with  
multi-layer protection



### Applications:

Factories | Commercial Buildings | Solar Plants | Industrial Parks

## 03 VAJRA THERMAL SYSTEMS

Advanced HITCHTECH™ thermal management solutions for extreme environments.



Integrated cooling  
& heating



-30°C to +65°C  
operating range



Intelligent temperature  
control



Extends battery life  
and performance



### Applications:

Extreme Climate Areas | Outdoor Installations | Harsh Environments

## 04 VAJRA SMART SYSTEMS

Intelligent monitoring and control platforms for real-time visibility and optimal performance.



Real-time monitoring  
& analytics



Cloud-based remote  
access



Alerts, diagnostics  
& reporting



Seamless integration  
with EMS & IIoT



### Applications:

All VAJRA Systems | Energy Management | Remote Operations



**BUILT TO SCALE.  
DESIGNED TO DELIVER.**

Flexible solutions that grow  
with your business needs.



Flexible  
Scalability

Expand capacity  
anytime



Proven  
Reliability

Built for long-term  
performance



Lower Total  
Cost of Ownership

Efficient systems with  
lower maintenance



Sustainable  
Energy Future

Enable clean and  
resilient operations



# Engineered for Maximum Reliability

VAJRA BESS combines advanced battery technology, intelligent controls and multi-layer safety systems to deliver exceptional performance, long life and unmatched reliability in the most demanding industrial environments.



## KEY TECHNICAL SPECIFICATIONS

	<b>Battery Chemistry</b>	Lithium Iron Phosphate (LFP)
	<b>Cycle Life</b>	Up to 5000 Cycles @ 80% DoD
	<b>Design Life</b>	Up to 12 Years
	<b>Operating Temperature Range</b>	-30°C to +65°C
	<b>Protection Rating</b>	IP67
	<b>Scalability</b>	Modular Design, Scalable from kWh to MWh
	<b>Compliance</b>	IEC 62619, UN38.3, CE
	<b>Communication</b>	CAN / RS485 / Ethernet
	<b>Warranty</b>	Up to 10 Years (Optional Extended)

## PERFORMANCE ADVANTAGES



### High Efficiency

> 95% round trip efficiency for optimized energy use.



### High Power Density

Compact design with high energy output in less space.



### Fast Response

Millisecond response ensures reliable support during power events.



### Peak Shaving

Reduce peak demand charges and optimize energy costs.



### Energy Independence

Store energy and use when you need it the most.



### Renewable Integration

Maximize solar and wind energy utilization with smart storage.

## MULTI-LAYER SAFETY ARCHITECTURE



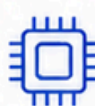
### Thermal Runaway Protection

Early detection and isolation to prevent thermal propagation.



### Integrated Fire Suppression

Built-in fire suppression system for rapid response.



### Smart BMS Protection

Continuous monitoring of voltage, current, temperature and SOC.



### Fault Detection & Isolation

Real-time fault detection with automatic isolation for system safety.



### System Isolation Protection

Electrical isolation ensures safe operation during faults.



### Cell Balancing & Equalization

Active cell balancing improves battery life and performance.



### Robust Enclosure Protection

IP67 rated enclosure for dust, water and harsh environment protection.



**BUILT TO PERFORM.  
BUILT TO PROTECT.**

VAJRA BESS is engineered to deliver consistent performance with uncompromising safety, ensuring your operations continue without interruption.

**5000**

Cycles  
Up to

**12**

Years  
Design Life

**IP67**

Protection  
Rating



# From Concept to Continuous Support

VAJRA provides end-to-end solutions backed by expertise, structured processes and dedicated support to ensure your energy storage system delivers maximum value throughout its life cycle.



## OUR PROVEN PROCESS



## WHY PARTNER WITH VAJRA?



### Proven Expertise

Deep domain knowledge and experience in delivering complex energy storage solutions.



### Custom Solutions

Tailored systems designed for your specific requirements and future scalability.



### Quality & Reliability

High-quality components and rigorous testing ensure reliable and safe operation.



### Lower Total Cost of Ownership

Efficient systems and smart energy management reduce costs over the entire life cycle.



### End-to-End Support

Dedicated support team with remote monitoring and rapid response service.

## OUR SERVICES



We are committed to powering your success with reliable energy storage solutions and unwavering support every step of the way.